

CIRCULATING
FLUIDIZED BED
TECHNOLOGY

Edited by **Prabir Basu**

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Proceedings of the First International Conference on
Circulating Fluidized Beds,
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PREFACE

The process of Circulating Fluidized Bed is generating increasing interest among practicing engineers, researchers and academicians. Unlike many other gas solid contacting processes, it was primarily developed by some industries for roasting and combustion purposes and, later, the rapid commercial success of this technology drew attention of other researchers. Since the commercialization of this process outpaced fundamental research, a number of important gaps in the understanding of this process remained. The lack of information in those areas inhibits an optimum exploitation of this technology. Thus, in-depth research work started in some industrial laboratories and universities around the world. A need for exchange of views and information on this research was felt. How such a lack of information exchange inhibits the growth of a technology is best described by Prof. Arthur Squires who remarked, ".....it took 18 years for Winkler's discovery to cross the ocean"

In the present age of information explosion such delays were inconceivable; the technology was thought to be sufficiently developed to deserve an exclusive discussion forum. However, inspite of the efficient information channels, no one was aware how many centres around the world were engaged in research in Circulating Fluidized Bed. Consequently, an International conference on this technology was planned for a small number of papers and a modest attendance.

This conference was proposed by the Technical University of Nova Scotia and sponsored by the Canadian Society for Chemical Engineering and the Canadian Society for Mechanical Engineering. Strong encouragement and financial support came from a number of industries and government institutions. The Pergamon Press, Institute of Energy, U.K and the Japan Society of Energy & Resources helped publicise the conference. The Continuing Education Division of the Technical University of Nova Scotia provided the administrative and technical support. The Premier of the province of Nova Scotia, the Hon John Buchanan, delivered the welcome address and an illuminating banquet speech. The Federal Minister for Supply and Services the, Hon. Stuart McInnes delivered a thought provoking keynote address. A rapporteur format of discussion was adopted at the conference to permit more

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opportunity to assimilate information through discussion. The Chairpersons and Rapporteurs were instrumental in achieving this objective.

The conference was successful both in terms of number of delegates and of papers presented. Two hundred and fifty delegates from 17 countries attended the conference. More than half the delegates were from industries. Thus the conference sessions saw a lively exchange of views between the practising engineers and academicians.

A number of prominent experts in Circulating Fluidized Beds were invited to prepare overviews in subjects of their speciality. Discussion papers were selected on the basis of extended abstracts. Full version of the selected papers were refereed by two experts in respective fields. The authors modified their papers following the reviewer's comments. The modified papers have been included in this volume. Discussions of all sessions were taped. Some delegates failed to use the microphone; as a result some good discussions could not be recorded. However, all taped discussions were transcribed and included at the end of the papers on which the discussions were held. An index based on the key words supplied by the authors is added at the end of the proceedings.

Dr. Feridun Hamdullahpar arranged review and subsequent modification of the papers with his characteristic devotion. This proceedings is the result of hard work of the authors and the reviewers who used valuable time to improve the quality of the papers printed here.

The advice of Dr. G.D.M. Mackay and Dr. A.M. Al Taweel was invaluable to the organisation of this conference. Dr. P.K. Nag Mr. P. K. Halder, Miss Catherine Patterson and Miss Mary Meidel provided commendable service.

Delegates at the conference demonstrated interest in continuation of this conference for exchange of views on Circulating Fluidized Bed. An international committee was formed to advise future International conferences on Circulating Fluidized Beds. A permanent Secretariat for the conference has been formed at the Technical University of Nova Scotia. This office will be responsible for publications of the proceedings and assisting in the organisation of future conferences. The next conference is scheduled to be held at the University of Compeigne, France in 1988.

It is hoped that this proceedings, a collection of papers of lasting value, will serve as useful reference to engineers and scientists.

Halifax

Prabir Basu
Conference Chairman